Proceedings of the Iowa Academy of Science

Volume 48 | Annual Issue Article 50

1941

The Action of the Ethanolamines on Cornstalk Lignin (Abstract)

Elton Fisher
Iowa State College

may be used in comparisons involving the far stronger effects due to structural differences.

(1) Proc. Ia. Acad. Sc. *38*, 169-70 (1931); *40*, 113 (1933); *41*, 172 (1934).
(2) Stieglitz, Am. Chem. J., *39*, 31 (1908).

CORNELL COLLEGE,
MT. VERNON, IOWA.

ACTION OF THIONYL CHLORIDE ON URETHANES

(ABSTRACT)

H. B. FREYERMUTH AND L. CHAS. RAIFORD

Raiford and Shelton [J. Org. Chem., 4, 207 (1939)] found that hot pyridine causes 2-carbophenoxyamino-4-methyl-6-bromophenyl p-tolylsulfonate to lose phenol and give a "condensation product" which was found to be a 1,3- derivative of uretedione (uretidone). This type of derivative was also obtained by Warren and Wilson [Ber., 68, 957 (1935)] by the action of thionyl chloride on phenylurethane. But it has now been found that the last-named reaction is specific for phenylure thane. When the phenyl radical contains a "negative" substituent, thionyl chloride causes no action after five hours refluxing. If the substituent is alkyl the treatment causes tar formation, from which nothing definite could be isolated.

Ethyl and n-butyl carbamates react with thionyl chloride to give the corresponding esters of allophanic acid and small amounts of cyanuric acid. Under the same treatment 2-naphthylurethane undergoes chlorination to give the 1-chloro derivative, while the 1-naphthyl compound gives the 4-chloro derivative.

LABORATORY OF ORGANIC CHEMISTRY,
STATE UNIVERSITY OF IOWA.
IOWA CITY, IOWA.

THE ACTION OF THE ETHANOLAMINES ON CORNSTALK LIGNIN

(ABSTRACT)

ELTON FISHER

A previous paper has shown that the amount of lignin removed from plant tissue by organic nitrogen bases is dependent on the basic strength of the extracting agent. It was also shown that these bases form nitrogenous compounds with lignin.

This communication reports an extension of the earlier work followed by alkaline hypoiodite oxidation and methylation studies on lignin isolated from cornstalks with the ethanolamines. The results obtained substantiate the conclusions of the previous paper and indicate that the action of these amines on lignin *in situ* is different from their action on isolated lignin. Evidence that the ethanolamines do not react with isolated lignin through their hydroxyl groups was obtained.

DEPARTMENT OF CHEMISTRY,

IOWA STATE COLLEGE,
AMES, IOWA.

CARCINOGENIC HYDROCARBON EFFECT ON RAT LIVER VITAMIN A

(ABSTRACT)

T. U. MARRON

The depleting effect of methycholanthrene on rat liver vitamin A stores was studied by use of the antimony trichloride method. Phenanthrene injected rats served as controls for the carcinogenic agent. The results were checked on a later series of animals by the use of fluorescent microscopy for the delection of vitamin A in the tissue.

IOWA LUTHERAN HOSPITAL,

ALCOHOL IN PRESERVED BLOOD SPECIMENS

(ABSTRACT)

T. U. MARRON

Since blood alcohol determinations are coming into prominent use in law enforcement, knowledge of the reliability of analyses on blood that has aged is important.

Suitability of various preservatives is discussed in relation to data on maintainance of the alcohol content of blood specimens.

The data is in such a form as to be a reference for the expected change in alcohol concentration in an aged blood sample.

A method of analysis for alcohol is presented. Discrepancies in alcohol content by different types of analyses are found on aged specimens.

IOWA LUTHERAN HOSPITAL,
DES MOINES, IOWA.

